

Impacts of E-commerce in apparel supply chain

Shibbir Ahmad ,*M.Iqbal

Uttara University

Uttara, Dhaka, Bangladesh

*Department of IPE,SUST,Sylhet,Bangladesh.

ahmadjerin@gmail.com

Abstract

E-commerce not only deals online selling and buying but also plays a vital role on supply chain management. Apparel manufacturing organizations are suffering gigantic issues regarding receiving materials in a timely manner. Consequently, owners have to pay more on airing goods due to poor supply chain. The SCM is the spine of E-commerce, a very critical component of E-commerce. Supply chain efficiency means having the right product at the right place at the right time, can save money or reduce costs, and can enhance cash utilization. E-commerce plays a vital role on inventory management to keep the record electronically to avoid any information breach. In this paper, we have developed a database management system which would be centrally visualized by the partners of the apparel supply chain. Buyer can be able to place orders through this developed database system electronically which might save at least ordering cost.

Keywords

Supply chain, E-commerce, cost reduction, better communication, apparel organization, information visibility.

1. Introduction

E-commerce does not just mean trading and shopping on the Internet. It has more important meaning i.e business efficiency at all operation levels. The apparel manufacturing organizations are struggling to survive in the competitive market since labor cost is increasing day by day. Bangladesh government has been imposed a rule over the entire garments manufacturing industry that wages must be increase every five years of recess. Government has been declared to increase 51 % wages of the garments workers whereas the cost of manufacturing increasing due to such kind of incremental matter. Government does not provide any special facility to the industrialist to cut their overhead cost through there are some of options to be considered in the power supply. Apart from that movement can be decreased the taxes which incurred on the investor. In addition, manufacturer not only getting such cost decreasing facilities from the government but also not enjoying the proper supply of electricity and gas supply from national grid. That is why, owners have to invest more on alternative power supply which is highly costly. As a result, garments manufacturing industry is the question of surviving. In this situation, they are focusing on reduction of cost in different from of view. Improving and making smooth supply chain is one of that vast area. Manufacturers have to pay more cost for airing shipment due to poor supply chain management. The reason behind that is the lack of proper information visibility. In order to make the visible of the information evolving e-commerce into supply chain is the important matter.

2. Literature Review

Apparel supply chain is very challenging in regards to Bangladesh perspective due to political and bureaucracy problems. The companies are paying more money because of

The purpose of supply chain management is to coordinating, scheduling and controlling procurement, production, inventories and deliveries of products and services to customers. The SCM is the backbone of Ecommerce, a very critical component of E-commerce. Supply chain efficiency deals about having the right product, at the right place, at the right time, can save money or reduce costs, and can enhance cash utilization.

Ganeshan and Harrison [1] has demarcated SCM as a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to end customers. Lee & Corey [2] stated that SCM consists of the integration activities taking place among a network of facilities that procure raw material, transform them into intermediate goods and then final products, & deliver products to customers through a distribution system.

Christopher [3] defined the supply chain as the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer. SCM is the "strategic and systematic coordination of the traditional business functions and the tactics across these business functions within a particular firm and across businesses within a supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole"[4]. While the separation of supply chain activities among different companies enables specialization and economies of scale, there are many important issues and problems that need to be resolved for successful supply chain operation this is the main purpose of SCM. [5] Best value supply chains use strategic supply chain management in an effort to excel in terms of speed, quality, cost, and flexibility. Despite the value of this concept to modern firms, little is known about how prominent theories can help shed light on what distinguishes these chains from others and makes them exceptionally successful. [5] Supply chain is a network of facilities and distribution options for the entire network of companies to work together to design, produce, deliver, and service products. Since its inception about 10 years ago, the field of supply chain management has become tremendously important to companies in an increasingly competitive global marketplace. Companies focused primarily on manufacturing cost before 1970's, quality improvements in 1970's, product delivery time in 1980's, customer services in earlier 1990's, and environmental compatibility in late 1990's within their bounded walls; now their efforts extend beyond those walls to encompass the entire supply chain efficiently and intelligently in a knowledge-based economy of this Millennium [6,7,8]. Now a days, business world is moving ever faster than the past. Adaptation to change is very important for any e-business software. Agility will become a necessity for any e- business infrastructure software. Zhang Shensheng stated that our e-business solution software is a technology leader having a full set of agile implementations including HuiQing Agile Supply Management System [9].

3. Problem statement

The core problem of the role of apparel supply chain on e-commerce is to be the trusted partners of the chain. The sincerity level of the chain members have to be higher otherwise proposed system will not be beneficial.

4. Objectives of the research

- To study the literature review on role of supply chain in e-commerce
- To design apparel supply chain network.
- To develop the database management system for on line order placing

5. Methodology of the research

Firstly, to study background of the both apparel supply chain and e-commerce deeply . Specify what are the major role apparel supply chain plays on e-commerce. E-commerce is the distinct field of study where linking supply chain will be more challenging. Secondly, designing and implementing the smooth apparel supply chain which will be correlated to the E-commerce systems. Finally development of the database managements system through customer will place orders to manufacturer ,and supplier will supply raw materials to the respective manufacturer once orders has been confirmed from buyer and manufacturer end. There will be a mutual collaboration between buyer-manufacturer and supplier and when placing an order to manufacturer from buyer end, promptly manufacturer will give feedback on the database to update the information systems.

6. Apparel supply chain

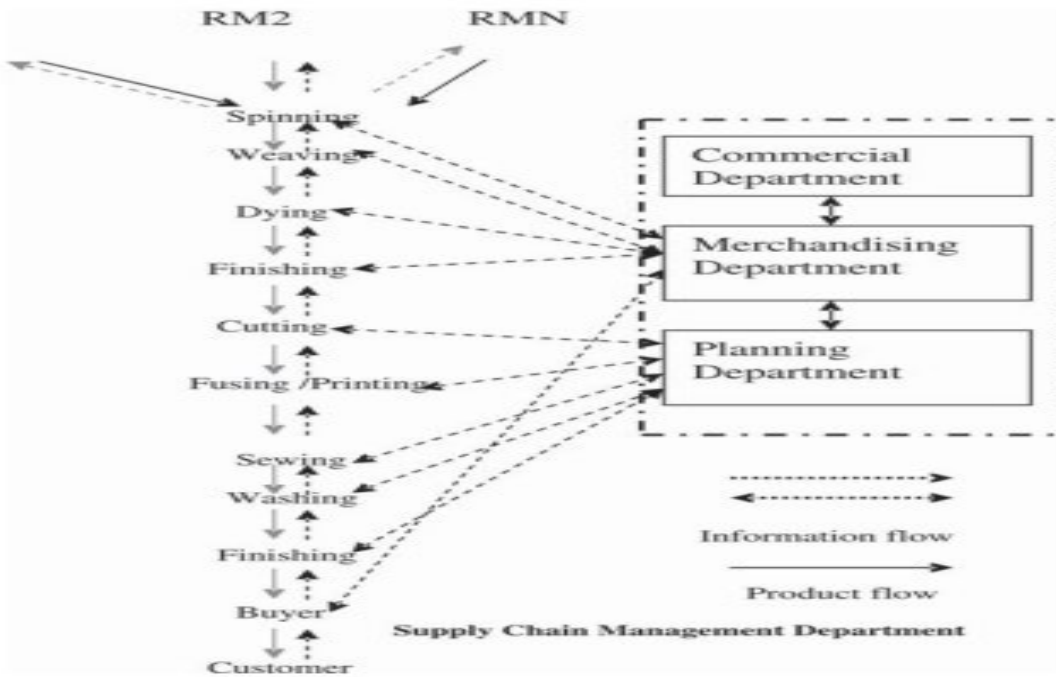


Figure 1: Apparel supply chain

7. Proposed method of the On-line orders placing and receiving

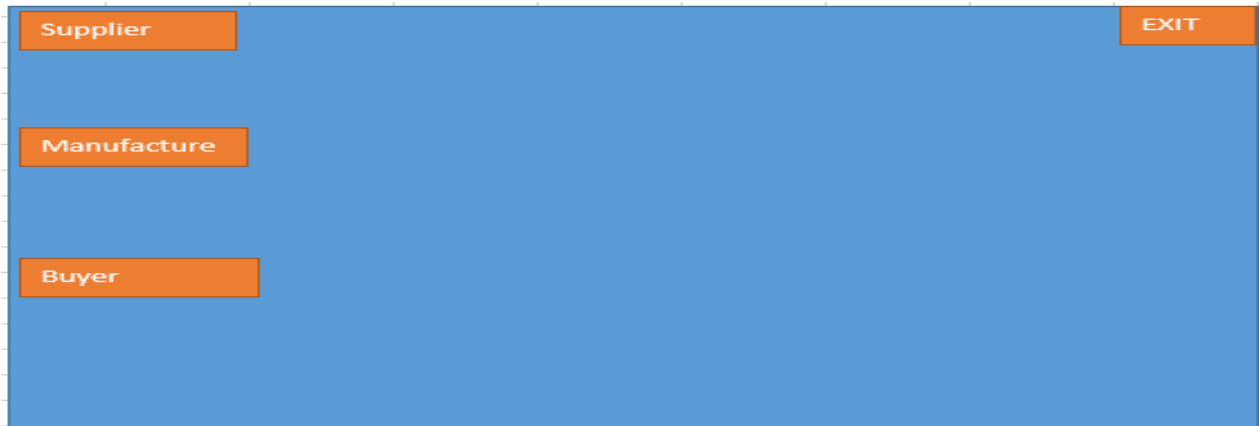


Figure 2 : Central Database system

The form for the buyer has a blue background. At the top left, there is an orange box labeled 'Buyer'. Below it, there are seven orange boxes for labels: 'Buyer', 'Style', 'PO', 'Qty', 'color', 'Ship date', and 'Date of Order'. To the right of these labels are seven white horizontal input fields. At the bottom right corner, there is an orange box labeled 'Confirm'.

Figure 3 : Database system for buyer

The form for the supplier has a blue background. At the top left, there is an orange box labeled 'Supplier'. Below it, there are seven orange boxes for labels: 'Fabric', 'Tafetta', 'Thread', 'Button', 'color', 'Ship date', and 'Date of Order'. To the right of these labels are seven white horizontal input fields. At the bottom right corner, there is an orange box labeled 'Confirm'.

Figure 4 : Database system for supplier

Figure 5: Database system for manufacturer

Central Database System(CDS)

Buyer							Supplier					Manufacturer									
Date	Buyer	Style	PO	Color	Quantity	Ship Date	Color	Quantity	Fabric	Tafetta	Thread	Button	Color	Ship date	Fabric	Tafetta	Thread	Button	Color	Ship date	
19-10-18																					
20-10-18																					
21-10-18																					
22-10-18																					
23-10-18																					
24-10-18																					
25-10-18																					

Figure 6: CDS

8. Conclusions and re-commendations

It has been shown from figure 2 that apparel chain member will be placing their orders through this central database system which would be developed through WordPress database software. Figure 3 depicted that when buyer or customer place an order to the manufacturer, usually places it through email confirmation. However, in this proposed system orders will be placed in online through using this model and details regarding all of the orders will be stored in the CDS database. All of the chain members will be accessible to this CDS database system. It will be linked with the developed database systems. Similarly, manufacturer and supplier will put any information through database this development system. By developing on line order placing system through developing a website will be further recommendation for apparel manufacturing organization and supply chain will be smoothed.

References

[1] Ganeshan, R, and Harrison Terry P., “An Introduction to Supply Chain Management,” Department of Management Sciences and Information Systems , 1995.
 [2] Lee Hau L., and Corey Billington, “The Evolution of Supply - Chain- Management Models and Practice at Hewlett - Packard. Interfaces”, (25), pp. 42 - 63, 5 September - October, 1995
 [3] Christopher M., Logistics & supply chain management: strategies for reducing costs and improving services (Pitman Publishing, London, 1998)
 [4] Mentzer J. T. , DeWitt V, Keebler K. S., Min S., Nix N. W. and Smith. C. D., Defining Supply Chain Management, Journal of Business Logistics , (22:2), 2001
 [5] Ketchen Jr. David J., and Hult G. Tomas M., Bridging organization theory and supply chain management: The case of best value supply chains, Journal of Operations Management (25), pp. 573– 580, 2007
 [6] Joseph M, Kelly T; "Intelligent Supply Chain Management, Information Integration, and Case Studies"; The Fifth National Agility Conference, Agility Forum, 1996 (CD-ROM).

[7] Noel P, John D; "Agile Logistics at the Global Transpark: from Practices to Infrastructures"; The Fifth National Agility Conference, Agility Forum, 1996 (CD-ROM).

[8] Paul L; "Agile Supply Chain Management-How to Gain a Market Leadership Position"; The Fifth National Agility Conference, Agility Forum, 1996(CD-ROM).

[9] Zhang Shensheng; "Virtual Enterprises and Agile Supply Chain"; Computer Integrated Manufacturing System; 1999.5

Acknowledgements

We are very thankful to Professor Md. Shahnewaz khan for his tremendous support and guidance to write a paper on E-commerce.

Biography

Shibbir Ahmad is Part time lecturer of Bangladesh Institute of Management in the department of Industrial Management, Bangladesh. He earned B.Sc in Industrial and Production Engineering from Shah Jalal University of Science and Technology, Bangladesh. Masters in Mechanical Engineering from Rowan University, USA and current part time student of Dhaka University of Engineering and Technology ,Bangladesh. He has published journal and conference papers. He is also working as a CEO of East West group. Shibbir Ahmad has completed research projects with Dr. Mohammad Ali ,professor of Shah Jalal University of Science and Technology ,East West Industrial Park Limited, Apex Holdings Limited . His research interests include manufacturing, operation management ,Industrial engineering , mechanical engineering , lean and Supply chain management .